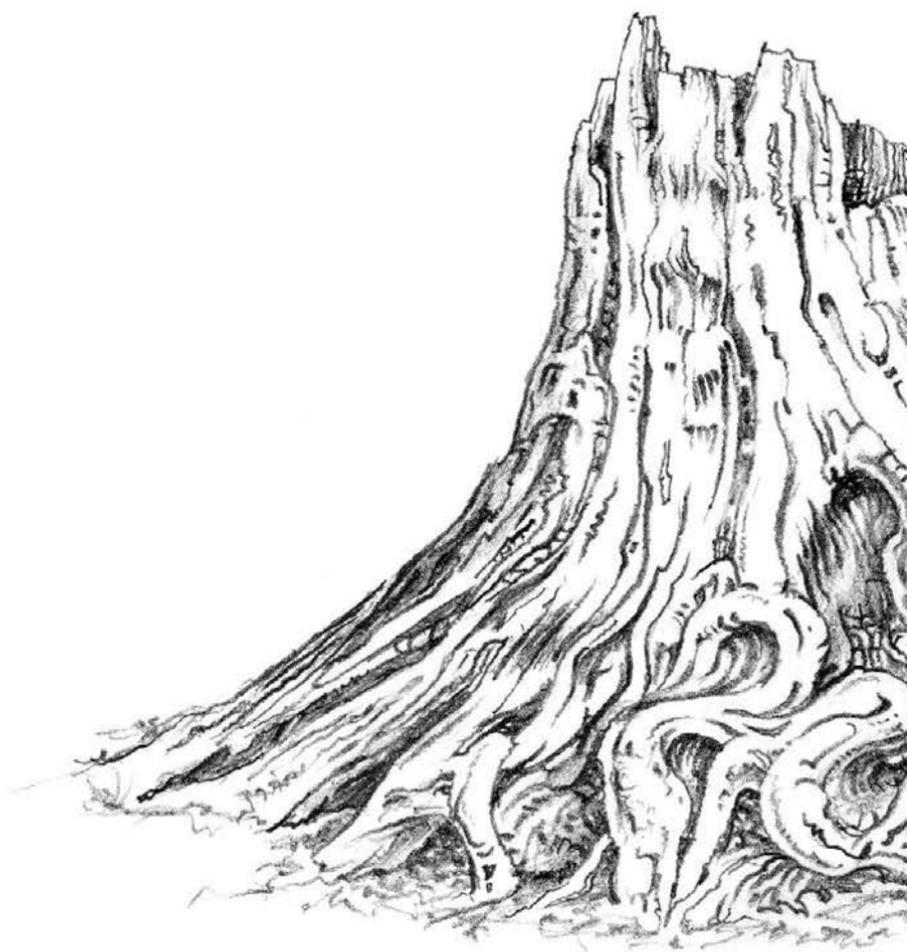


BLOMIDON
NATURALISTS
SOCIETY



FALL 2015 NEWSLETTER
Volume 42 · Number 3





JACK MCMASTER

❖ THE BLOMIDON NATURALISTS SOCIETY ❖

The primary objective of the Society shall be to encourage and develop in its members an understanding and appreciation of nature. For the purpose of the Society, the word "nature" will be interpreted broadly and shall include the rocks, plants, animals, water, air, and stars.

FROM THE BNS CONSTITUTION

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The Blomidon Naturalists Society is a member of the Sable Island Preservation Trust and the Federation of Nova Scotia Naturalists (Nature Nova Scotia) and is an affiliate member of the Canadian Nature Federation (Nature Canada). The Blomidon Naturalists Society is a registered charity. Receipts (for income-tax purposes) will be issued for all donations. (Registration number: 118811686RR0001)

BNS NEWSLETTER

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BLOMIDON
NATURALISTS SOCIETY

members are encouraged to
share unusual or pleasurable nature
stories through the pages of the BNS
Newsletter. If you have a particular
area of interest, relevant articles
and stories are always welcome.

Send them to Jean Timpa:

1-25 GASPEREAU AVENUE
WOLFVILLE, NS B4P 2C5
jtimpa@ns.sympatico.ca

Digital photographs should
be submitted to
doug@fundymud.com

**Submission deadline for Winter:
November 30, 2015**

OUT AND ABOUT

BY JEAN TIMPA, EDITOR

So many thanks to so many of you who have come through to make another autumn issue of our Newsletter – 41 of them, as the very first was typed out on my kitchen table up on Pleasant Street on awful Gestetner carbons in September 1974. Some processes do evolve for the better over time.

Some do not! Forty-one years ago we did not even know the expression *climate change*; how blissfully naive we were, except for a few mocked as being gloomy doomsday naysayers. If you have the opportunity, read the preface to Rachel Carson's *Silent Spring*. Interesting book, some of us thought – caused a bit of a stir, but we did not rally to the cause very much. Oh yes, read the rest of the book, too. I overheard a brief request for a copy of it at The Box of Delights Bookshop here in Wolfville in September, as it is being used in a course at Acadia. They needed to order it.

A very special thanks to Nathan Coleman of the Weather Channel for coming to Wolfville Harbour on September 29 to film a tedious six-hour time lapse shot of the highest tide in 18 years. He came as a result of a gorgeous “Blood Moon” eclipse, which occurred and was enjoyed by so many people two nights before the tidal event. Thanks to Roy Bishop for explaining all this to us several times. I sat beside Nathan for about four hours, assuring him that the water would eventually appear and fill up that big muddy hole in which there were Greater Yellowlegs, Mallards, gulls of various sorts, four or five Great Blue Herons trying to hide over in the long row of Marsh-elder (*Iva frutescens*) until they were flooded out, and a lovely flock of Pectoral Sandpipers, which Larry and Alison Bogan helped identify.

Many BNS members came by to celebrate the tidal event, and we were all thankful it was not another Saxby Gale (October 5, 1869). That event is immortalized at Waterfront Park, with a sculp-

ture describing the gigantic storm on a gigantic tide, resulting in unimaginable flooding, death, and destruction on both sides of the Bay of Fundy.

About an hour before high tide, Nathan received a frantic message from his producer that he had to rush off to New Brunswick ASAP, because a rainstorm of historic proportions was about to occur over there. So Nathan, a native of Saint John, waited out the high tide, took some last photos of a lovely rectangular patch of rainbow over the Cobequid Hills, and fled to Halifax for his boots and then to Saint John, where he was reporting later that evening. We made national TV a number of times, and I hope it translates into many new memberships! We do need them, especially a younger group to replace a bunch of creaky BNS board members, if BNS is to continue.

— *Club Notes* —

MEMBERSHIP FEE INCREASE FOR 2016

BY ED SULIS, TREASURER

The BNS board has voted to increase the annual member/family fee from \$20 to \$30. This increase will offset some of the membership costs, particularly those associated with publishing and mailing the Newsletter. Over the eight years since fees were last increased, paid memberships have gradually declined from about 190 to the current 141.

Our membership year is from January 1 to December 31, and members receive notice of dues outstanding in a small, addressed, white envelope slipped in with the fall newsletter mailing. It will be appreciated if the dues are paid promptly. If this increase causes any financial difficulty, please call me at 902-678-4609 for an immediate and confidential fix.

2016 BNS NATURAL HISTORY CALENDAR

The 2016 Blomidon Naturalists Society natural history calendar is now available. This is the 19th year of publication for this unique calendar, and as always it contains exceptional pictures by local photographers, daily tide times for the entire year, current and historical events, and lots of fascinating natural history information.

Calendars are available at the following retail outlets:

- Herbin Jewellers, EOS Fine Foods, and Blomidon Inn in Wolfville
- Hennigar's Farm Market, Elderkin's Farm Market, and Noggins Corner Farm in Greenwich
- Shur Gain Feeds & Needs in Port Williams
- R&G Family Restaurant in Hants Border

These outlets sell the calendar for our benefit at no profit for themselves, and we thank them for that and encourage you to patronize these fine establishments.

Calendars will also be available at BNS monthly meetings, our booth at the Acadia Christmas Craft Fair, and from our treasurer, Ed, at edmasulis@ns.sympatico.ca. The price is still only \$15 each.

Don't forget, calendars make an excellent Christmas gift, especially for those from away.

A SOCIAL MEDIA UPDATE

BY IAN MANNING

I've had the pleasure to meet many of you in person. For everyone else, I hope we get an opportunity to meet soon. I recently started helping out as the BNS publicity and social media coordinator. While the publicity side speaks for itself, I'll describe my intentions

for the social media portion of the position. For those of you not familiar with the term, *social media* is a way of sharing information with people over the Internet. A growing number of social media platforms can be used for sharing information, but I've decided to narrow it to three:

- Facebook (a page as opposed to the currently existing Facebook group)
- Twitter
- Instagram

Keep in mind that both our Facebook page and Instagram sites are in their infancy, so there's not a lot of content right now. Check back soon to see more. Posts across all three platforms will be very similar, if not identical. The goal is to reach as many people as possible – in particular, people who have an interest, but may not be aware of how to access information. If you're having trouble accessing any of these pages, please let me know.

Besides posting about upcoming field trips, meetings, and new events, I'm also going to develop some original content – mainly posts that highlight natural history in Nova Scotia. Posts will be topical, current, to-the-point, and written in an easy-to-digest, engaging format.

A few ideas:

- *ID Challenge*: Post a blurry photo, poor field sketch, or incomplete description and see if users can guess what's going on.
- *Meet the Neighbours*: Short profile on a specific Nova Scotia species. I want this to build from the ID challenge. For example, the ID Challenge is a photo of Indian Cucumber-root. Tomorrow morning I'll have a post with the proper name and a couple of short facts.
- *Get out There!* Information on a local hiking trail or interesting natural location.
- *Historical Observations*: Anniversaries of first record, last record, etc.

Could be a really fascinating topic and bring great awareness to how quickly our environment is changing.

- *Learning Resources:* When a new book or website is launched with information relevant to the BNS mandate, I think it's worth bringing attention to it.
- *Countdown to X!* With each upcoming event, post a countdown with a neat graphic and a link to event details.

I really want these points to be eye-catching images that can drive traffic to social media sites and, with a little luck, get some new folks out and about with BNS. Are there any photographers out there willing to grant me permission to use photos for BNS promotional events or natural history awareness in Nova Scotia? If so, please send me an e-mail. Thank you!

I also welcome any suggestions for ID Challenges and accompanying facts for Meet the Neighbours. I know there are some absolutely amazing field experts in this group. I'd really appreciate your feedback on anything. It's worth noting that I'm pretty weak in the astronomy/geology fields, so any guidance there for future posts would be most welcome.

Please feel free to distribute this message, and if you have any suggestions or specific ideas, please get hold of me. I'd love to hear any input you might have: ianmanning4@gmail.com

— Club Notes —

BOARD OF DIRECTORS REPORT

BY KENT WILLIAMS, BNS PRESIDENT

“A child’s world is fresh and new and beautiful, full of wonder and excitement. It is our misfortune that for most of us a clear-eyed vision, that true instinct for what is beautiful and awe-inspiring, is dimmed and even lost before we reach adulthood. If I had influence with the good fairy who is supposed to preside over the christening of all children I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote

against the boredom and disenchantment of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strength."

— RACHEL CARSON

In my role as BNS president, and getting to know the membership over the year, I believe Rachel Carson's "good fairy" found most of you. As I have had the opportunity to participate in great BNS events and to talk with many of you, I get inspired by the "sense of wonder" that you hold. Whether it is moon eclipses, moths, raptors, Monarch butterflies, swallows & swifts, owls, tidal bores, bugs, walks/kayaks in nature, or the cosmos, there is so much excitement in the words and stories that you share. Through this enchantment of nature is the opportunity to explore the essence and joy of what it is to be a sentient being. The question is, how do we co-inspire others to engage in nature and feel this same sense of wonder?

The BNS board recently met at the Noodle Guy in Port Williams for good local food and dialogue on moving forward positively as a society in our mission of sharing the essence of the nature experience through our educational events. We covered a lot of ground, with the main focus of conversation on reviewing BNS-funded kids programming, a membership fee increase, initiatives on recognizing longstanding members, proposed funding of events, and changes in our successful BNS calendar production team.

Here are the highlights: (1) the board voted 8–2 for a membership fee increase from \$20 to \$30; this reflects nine years of a static fee and the growing need to cover the costs of our quality educational events and initiatives; (2) the BNS-sponsored Kentville kids programs were a success, connecting 40+ kids to the nature experience; (3) the board approved funding of \$300 for an educational event (PechaKucha) on renewable energy coming in November; (4) two of our legendary members, Roy Bishop and Sherman Williams, will be stepping down from driving the BNS calendar after 19 (successful) years at the helm. They will be guiding the 2016 calendar, along with the usual suspect and calendar-team member, Pat Kelly, with Barry Yoell adding support. At this time, I, the board, and the membership coalesce in voicing our sincere deep gratitude and appreciation for

making the calendar the foundation strength of our BNS organization. Thanks Roy and Sherman!

Those are the main items from our meeting, but if you want more details, please feel free to talk with one of us board members, or request the meeting minutes. Event-wise, we were pleased with the response of the Chimney Swift educational initiative held at the Robbie Tufts Centre and the call for assistance in locating more nesting and sleeping chimneys in the area. And yes, thanks to reports from citizen naturalists, I believe four new sites were discovered. Thanks also to Richard Stern for his recent and brilliant lecture that weaved magnificent images of raptors.

If you have a particular question or concern, please do not hesitate to direct it to me or one of the board members. We are here to serve.

As we roll through the fall, I look forward to hearing more of your stories and words of curiosity and wonder – see you soon!

PS: Great to see Sherman W. promoting our famous Fundy high tides on the Weather Network and CTV National News. Also, a shout-out to Bernard Forsythe and his milestone banding numbers shared at our recent meeting – just outstanding! And congrats to Bob Danson for completing his 100th revolution of our Sun!

— Club Notes —

UPCOMING EVENTS

Meetings

Unless otherwise noted, all meetings are held at 7:30 p.m., usually on the third Monday of each month (note exception for December), in Room BAC241 of the Beveridge Arts Centre of Acadia University on the corner of Main Street and Highland Avenue, Wolfville. Parking is available off Highland Avenue, on Acadia Street, and at the parking area around the

Robie Tufts Nature Centre. Everyone is welcome. For more information on any events contact us at info@blomidonnaturalists.ca.

MONDAY, OCTOBER 19, 2015 – *Backyard & Neighbourhood Sanctuaries: gardening for the little things that run the world*, with Phil Schappert. (NOTE: This joint meeting with the Valley Gardeners will take place in room BAC 244, adjacent to our usual meeting room). ¶ Butterflies and other insects have two things going for them that most other conservation targets don't: they're short-lived and they're small. Many have multiple generations in a year or season, so what we do to their habitat right now often has a direct impact on their lives. While it's true that some insects travel long distances, many spend their entire lives in areas not much larger than the average backyard. If you plan and implement a garden with these thoughts in mind, you can provide an oasis of habitat that can sustain the entire life history of many butterflies and insects. Even simple, small changes can have large impacts on the lives of the insects that frequent your garden. Think of your garden as a miniature wildlife preserve – even better, think of your yard as one in a chain of similar backyard sanctuaries – and you'll be well on your way to helping butterfly and other insect populations not only to persist but to thrive.

Phil Schappert received his doctorate, with distinction, in biology at York University. He has taught ecology and conservation biology, conducted research on plant/butterfly interactions at York and the University of Texas at Austin, edited *The News of the Lepidopterists' Society*, managed the Stengl "Lost Pines" Biological Station for UT Austin, authored a number of magazine articles and scientific papers about butterflies and their host plants, and he is the author of *Monarch Butterflies: Saving the King of the New World*. Phil and his wife, Pat, live in Halifax.

MONDAY, NOVEMBER 16, 2015 – *The Fascinating World of Lichens: a look into what these extraordinary organisms are and some tips on how to identify them*, with Frances Anderson. ¶ Frances Anderson is a coauthor of the field guide *Common Lichens of Northeastern North America*, published

in February by the New York Botanical Garden Press. She has been studying lichens for over 10 years. Note: this talk will be followed up by a lichen field trip on November 21 (see below).

MONDAY, DECEMBER 14, 2015 – *Connecting Kids with Nature*, with Marina Myra & Jacqueline Bradbury. ¶ This year, Marina and Jackie ran 100% outdoors, nature-based afterschool and daycamp programs for the Town of Kentville in partnership with BNS and Wild Root Nature Education Centre. They will talk about the success of these camps, their experiences and insights into getting kids interested in nature, and how important it is for communities to have a nature ethic.

Before earning a masters degree on blueberry genetics from Acadia, Marina Myra studied endangered coastal plain plant populations in the Tusket system. She subsequently helped with vegetation surveys in the Cape Breton highlands and a Blanding's Turtle project in Keji. She worked for the apple industry on disease-resistant cultivars for 10 years. She is leader for the Berwick Young Naturalists Club and is currently on the BNS board. Last year, Marina made a career shift to use her biology background and naturalist spirit to get people in touch with nature. She created Wild Roots Nature Education Centre with the help of the Nova Scotia self-employment business program, and she is running nature connection programs for youth and adults.

Jacqueline Bradbury is a third-year Biology and Environmental Science student at Acadia. She spent this past summer completing a co-op work term with Wild Roots Nature Education Centre. She is on the Acadia Environmental Science Students Association and the Acadia Outdoors Club. She is interested in learning about nature, ecology, and impacts on the environment. Jacqueline also has a strong interest in helping to get people of all ages outside so that memories can be made and a connection to nature can be established.

Field Trips and Other Nature Events

Visit the BNS website for field trip maps and directions.

BNS MAPPING INITIATIVE – Maps can be valuable navigational resources, but they also tell powerful stories about the past, present, and future of our natural world. Did you know that BNS now has a licence for mapping software and a subscription to an online mapping portal (ArcGIS online)? We do! Are you interested in geography, maps, or collecting and mapping nature-related data? Then let the mapping begin.

One of the first expressions of the Mapping Initiative might be a Mapathon: a fleet of us compiling geographic datasets; exploring the region with GPS units, cameras, and notebooks; and using our artistic nature to make posters, web maps, or web applications that we can host on the BNS website. Don't have GPS skills or experience in map making? Not a problem – it's easy, and we can hold some workshops if need be. If you're interested in being part of this initiative, or have ideas for a map BNS should create, contact James at info@blomidonnaturalists.ca.

SATURDAY, OCTOBER 10, 2015 – *Lane's Brook/Gaspereau Lake Canoe Trip*. Leader: Larry Bogan. (larry@bogan.ca). ¶ The access to Gaspereau Lake is into a part called Two Mile Lake, using a road between Aylesford Lake and Gaspereau Lake. For people coming from both ends of the Valley the best meeting place is at South Alton, at the intersection of English Mountain Road and Route 12 – meet there at 10 a.m.. The trip will be 3–4 hours long. Bring life jackets, canoe or kayak, paddles, and a snack or lunch. Rain date: Sunday, October 11.

SUNDAY, OCTOBER 18, 2015 – *Wallbrook Fall Colours, Late Wildflowers, and a Beautiful View*. Leader: George Forsyth (902-542-7116). ¶ A walk at Ralph Stirling's in Wallbrook. Have you ever seen the view of Melanson and the Minas Basin from the Wallbrook Tower? Many people have seen this tower when driving by, but few have been near it or even inside. Well, George will have the key. At this time of year we will also see some spectacular hardwood trees in fall colours

and some late wildflowers. Meet at the Robie Tufts Nature Centre (Front Street, Wolfville) at 1 p.m. to drive to Wallbrook, or meet at Ralph Stirling's at 1:15 pm. This will be an easy walk suitable for all, especially young people.

SATURDAY, OCTOBER 24, 2015 – *Little Split Cove and Beach Rockhounding*. Leaders: David Sheppard and Chris Sheppard. ¶ Little Split Cove is a virtual storehouse of tumbled agates. This day trip follows the Cape Split trail nearly to Cape Split Meadow. A tangential climb down to the shoreline is not difficult. Chris will take more adventurous and able folks right to the split on the shore, through the Wind Tunnel and even out past the split. David will remain behind at Little Split Beach with those feeling less adventurous and able. This trek is no more dangerous than any other hike with a small climb (ropes are already attached), or a walk on a boulder-strewn Fundy shore. Meet at the Cape Split trail parking lot at 9:30 am. A rain date is set for Sunday, October 25.

SATURDAY, OCTOBER 31, 2015 – *Citizen Science: Milkweed Mapping*. Leaders: Larry Bogan, James Churchill. ¶ Milkweed is a vital resource for many of Nova Scotia's butterflies, a number of which are species of conservation concern, such as Monarchs and Hairstreaks. To get a better picture of the distribution of milkweed, this simple citizen science initiative will involve roadside and trailside mapping of milkweed patches in Kings County. Yes, most butterflies will be gone, but milkweed should still be visible at this time of year. Similar to Christmas bird counts, we will assign sections to participants. If you have a patch you would like to report or a section you would like to map (on October 31 or any other time of year) please let us know (info@blomidonnaturalists.ca). Otherwise, meet us at the Bogans' Monarch Waystation (6539 Brooklyn Street, Brooklyn Corner) at 10 a.m.

SATURDAY, NOVEMBER 7, 2015 – *Amethyst Cove Rockhounding and Photography*. ¶ Another scheduled attempt to explore Amethyst Cove with Fundy Rocks! Fundy Rocks members David and Chris Shep-

pard will accompany us on the trip, which includes a descent into Amethyst Cove and a trek along the shore to Amethyst Cove proper. The descent to the cove is not for the faint of heart, and the trip will only proceed if conditions are good. Meet at the entrance to the Cape Split trail at 9:30 a.m. Fundy Rocks will check conditions before the trip, and we will use social media (BNS website, email, Fundy Rocks Facebook page, BNS Twitter) to advertise trip postponement or cancellation). The rain date is Sunday, November 8, but if conditions are still not good, the trip will be postponed.

SATURDAY, NOVEMBER 21, 2015 – *Local Lichens*. Leader: Frances Anderson. ¶ This event has a limit of 15 registrants, so please pre-register: info@blomidonnaturalists.ca). Following on the heels of her presentation to BNS on November 16, Frances will help us put this knowledge into practice as we explore and identify lichens in the field. The location will be announced to registrants, and the current meeting place is the Wolfville waterfront at 10 a.m.

SATURDAY, DECEMBER 19, 2015 – *Citizen Science: Wolfville Christmas Bird Count* ¶ The Christmas bird count has been an annual tradition since 1900, now with over 50,000 participants across North America. A vast pool of bird data has been created on the status and distribution of early-winter bird populations. The count area is a circle 24 km (15 miles) in diameter, where volunteers count all the birds they see on the count day. All levels of birders are invited to participate in the Wolfville count. You may be assigned your own area within the circle or join with others who may be more experienced. To participate, contact Alison Bogan, the compiler, at 902-678-0446 or alison@bogan.ca, or at a BNS meeting before the count. There is no longer a fee for participants, but free-will donations can be made to Bird Studies Canada.

For those with bird feeders in the count area (12 km from Henni-gar's Farm Market) who prefer to count from home, you are invited to keep track of the birds at your feeders for all or any part of the count day and get that information to Jim Wolford at 902-542-9204

or jimwolford@eastlink.ca. Following the count, around 5 p.m., all participants are invited to Richard and Liz Stern's for a tally count and chowder/chili supper. The address is 317 Middle Dyke Road, north from the lights at the intersection of Belcher Street and the dyke road from New Minas, just south of Chipmans Corner. Richard and Liz can be reached at rbstern@ns.sympatico.ca or 902-678-1975. Everyone is welcome.

FRIDAY, DECEMBER 26, 2015 [TENTATIVE DATE] – *Citizen Science: 48th annual Kingston Christmas Bird Count*. ¶ Wayne Neily (902-765-2455, neilyornis@hotmail.com) will be compiling the count again this year. It is a 12-km radius circle centred at the intersection of Main and Bridge Streets in Kingston. All are welcome to participate as field observers, or, if you live within the circle, as feeder observers, but you must contact the compiler in advance so that you can be included in the planning. (Date preliminary, to be confirmed with participants).

SUNDAY, DECEMBER 27, 2015 – *Citizen Science: West Hants Christmas Bird Count* ¶ Patrick Kelly (902-472-2322, patrick.kelly@dal.ca) will be compiling the count again this year. All are welcome to participate, but please contact the compiler as soon as possible so that you can be included in the planning. Following the count, around 5 p.m., all participants are invited to a tally and potluck supper at the home of John and Francine Belbin: 1030 Avonview Drive in Hants Border just outside Hantsport. This is in the Avon Heights subdivision just off Highway 1, on the hill directly above R&G Family Restaurant.

— Notice —

PECHAKUCHA NIGHT IN WOLFVILLE, VOL. 5: PROMOTING CONVERSATION THAT MATTERS

A typical PechaKucha night involves 8 to 14 presenters. Each presenter shows 20 slides for 20 seconds each, for a total time of 6

minutes and 40 seconds. Presentations are therefore concise and fast paced. The PechaKutcha concept started in 2003 in Japan to showcase young designers in a forum where they can meet to discuss and show their work and to exchange ideas. PechaKucha nights have spread worldwide to over 700 cities and towns, and the topics are as varied as the organizers wish. And another PechaKucha night is coming to our community.

The event will take place at the Wolfville Farmers Market on Thursday, November 5, 2015, at 7 p.m. The theme is *Emerging Innovative Stories Around Renewable Energy – Energy Unplugged* (and why? as climate/environment damage stares us all in the face more and more).

This informative community event is sponsored by the Blomidon Naturalists Society and is open to all and all ages. You will be inspired.

— Field Trip —

SOME SPRING AND SUMMER FIELD TRIPS 2015: OLD, NEW AND RESCHEDULED.

BY JAMES CHURCHILL

In the past couple of years, it's been fun trying to generate ideas for new events from conversations with members of the BNS community and colleagues, and by eavesdropping on nature groups on social media. Excellent publicity work by Laura Churchill has gone a long way to ensure that these new events have been widely publicized to some new audiences.

The first year of the Miner's Marsh Tree Swallow nestbox joint project with the Young Naturalist Clubs proved very exciting: several people were involved in checking boxes, 11 of 12 boxes were occupied by breeding pairs, and pairs in all but two of these boxes successfully fledged young. The highlight for many was a chick-banding demonstration by Dalhousie PhD candidate Tara Imlay, where about 30 children and adults got to see cute/homely chicks

up close and got a glimpse into the world of bird research. Also of great interest was that three banded adults were spotted during the season, photographed, and reported, primarily via the Friends of the Miner's Marsh Facebook group. Although the banded birds were not caught this year to retrieve Canadian Wildlife Service band numbers, this suggests that activity at this site is linked with that at other nearby Tree Swallow project sites.

In April, BNS sponsored a Maritimes first – the Citizen Science Expo at the Wolfville Farmers' Market. More than two dozen organizations and researchers made the event and set up displays or gave presentations of their research. Participants hailed from as far as Cape Breton Island, Sackville, New Brunswick, and southwest Nova Scotia. The topics ranged from discovery of new species on underwater video cameras to 3D printers, from building online maps to surveying for Wood Turtles, sea turtles, lichens, salamanders, and bird species at risk. The room was buzzing with conversation (maybe it was the bird-friendly coffee), field assistants were found, and linkages forged between organizations and interested citizens. Positive comments abounded, valuable feedback was received, and a desire to continue the momentum in future years was heard loud and clear. The success of the event was a testament to the fact that citizen science is happening deeply in the Maritimes, and BNS hopes to be a part of fostering this for years to come. In 2016, we hope to develop the event further and include opportunities for workshops and other events.

Marsh Madness 2, in June at Miner's Marsh, was again well attended, with plant and aquatic invertebrate exploration stations (thanks to Marina Myra of BNS and Wild Roots Nature Education Centre, www.wildrootsnec.com, with 2015 assistant Jackie Bradbury and Murray Colbo); a fish, amphibian, and reptile station with John Brazner, NS Department of Natural Resources; and terrestrial invertebrate expertise from Angus McLean. A Purolator Tackle Hunger barbeque raised over \$200 for local food banks. The afternoon was topped off by Tara's Tree Swallow banding demo (see above). We added a mothing station this year on the night walk, with Andrew

Hebda of the Nova Scotia Museum of Natural History, and once again were successful in detecting bats foraging around the marsh edges with Andrew's ultrasonic detectors.

Despite a cancelled butterfly atlassing trip, we held successful "mothing" nights in the Kentville Ravine (led by Jim Edsall) and at Blomidon Provincial Park (with Jeff Ogden). The highlight of the Kentville Ravine event was Jim's discovery of a moth species not previously reported in Nova Scotia, *Neoligia exhausta*, the Exhausted Brocade. A picture of this creature can be seen on the BNS Facebook group (Facebook search: Blomidon Naturalists Society *Neoligia exhausta*), and Jim will give us some details and context for this discovery in a future newsletter. (Incidentally, I was fortunate enough to have three of these at my lights the following night in Kentville!) Despite a very small number of adult Monarchs observed this year, Larry Bogan led another inspiring Monarchs and Milkweed trip at the Bogans' Monarch Waystation in Brooklyn Corner, and some attendees observed Monarch caterpillars for the first time in their lives. Thanks to Larry, this winter the kids and I will be experimenting with germination rates of milkweed seeds in different soil types.

Many thanks to all those who generously gave their time this year to make these and other field trips happen.

If you have any field trip ideas, we'd love to hear about them: info@blomidonnaturalists.ca.

— *Field Trip* —

MONARCH BUTTERFLIES 2015

BY LARRY BOGAN

Saturday, August 8 – Some 15 naturalists gathered in our field of Common Milkweed on Brooklyn Street in Cambridge to observe parts of the lifecycle of the Monarch butterfly. I described our operation as a Monarch Waystation and a site for raising Monarchs under protection for release and tagging.

At the time there were a male and a female Monarch in the field.



RICHARD STERN

The female had arrived July 30, the male just a few days before the field trip. The female had been laying eggs on small milkweed plants, and Alison and I had collected many of them to raise in the security of our home. In addition, a few later-stage larvae were discovered in the field.

The butterflies were only the third and fourth we had seen this year. We saw our first Monarch briefly in early July and a male on July 9. They did not stay around to provide the eggs we needed. Finally the late-July female arrived and started to lay eggs. We collected over 40 eggs from the small milkweed plants that she prefers for deposition of eggs. If we had not done this, only about 1 in 100 would survive to become butterflies.

At the field trip, I was able to show eggs and small larvae but no chrysalids or eclosing (emerging from the chrysalid) butterflies as we did last year. There were other butterflies – fritillaries, Wood Nymphs, Cabbage Whites, and sulphurs – in the field.

Last year we collected our first eggs in early July, and our first butterfly eclosed on August 4. This year our first adult eclosed on August 22.

2013–14 was the worst year for the size of the winter roost in

Mexico since records have been kept. Last winter there was a slight increase in numbers, but due to lower temperatures during the migration north and northeast this spring, the Monarchs were delayed. Very few have been reported making it to Maritimes.

The outlook for this year is not as good as was hoped. Chip Taylor, director of Monarch Watch, has predicted in the July 2015 newsletter that the fall migration will be similar to those seen and tagged last year from the eastern Dakotas to perhaps western Michigan (where 90% of the Monarchs are raised). Lower numbers will be seen from eastern Michigan to western Pennsylvania and still lower numbers will be from in the northeast. And the migration will be late – this will be the third later-than-normal in as many years.

As of August 23, we had released three Monarchs and had about 50 chrysalids and larvae in our rearing program. We collected more larvae in the field after that, and by the end of rearing season on September 29 we had raised 75 adult Monarch butterflies. Fifty of those were tagged with Monarch Watch (<http://monarchwatch.org>) tags stuck on their wings. Two pupae and two larvae were donated to Arcadia Content for a film on East Coast Nature (see <http://arcadiacontent.com> for some of their work). Two adults had damaged wings and four were smaller than normal; they are not likely to make it to Mexico for the winter. We did not tag those six. We sex all the butterflies; this year we raised 36 females and 33 males plus 2 Monarchs that got away before we could determine their sex.

One Monarch was tagged from the ones raised wild in our milkweed field. It was difficult to keep track of those that lived wild, but we saw at least eight others at our butterfly garden and in the field. The last Monarch we saw this year was a wild one (probably migrating), seen on October 3. By this time the Monarch migration is into Oklahoma and Texas (see the migration map at Journey North website, www.learner.org/jnorth/maps/monarch.html).

FORTY YEARS

BY BERNARD FORSYTHE

People with a long-time hobby have goals they are trying to reach. Finding and recording bird nests is a rewarding way to study and contribute to knowledge of the breeding biology of our avian friends. The challenge becomes a numbers game: total species found per year, number of nests per species, how many were successful. However, for a long-time nest hunter the challenge can become how large the lifetime number will be.

My interest in birds began early in life. When I came across an interesting bird egg or nest, I would visit our neighbours John and Rachel Erskine. John would open his *Birds of America* with striking full colour plates by Louis Agassiz Fuertes. The highlight for me would be when he turned to colour plates of the eggs of American birds. Years later when Rachel moved, I was pleased when she passed the book on to me. It was Rachel who introduced me to The Maritimes Nest Record Scheme run by the Canadian Wildlife Service. 1975 was the first year I contributed by sending in 55 nest records representing 27 different bird species. Good finds the first year included nests of Killdeer, Spotted Sandpiper, Trail's (later to become Alder) Flycatcher, Least Flycatcher, Veery, Black-and-white Warbler, Chestnut-sided Warbler, and White-throated Sparrow.

A Long-eared Owl nest found in 1976 began my fascination with owls. Encouraged by Cyril Coldwell and Harry Brennan, my Barred Owl nestbox project has resulted in the banding of 700 young Barred Owls as of 2015. The pair nesting in our backyard has brought many visitors anxious for close-up views of these nocturnal hunters. Great Horned and Long-eared Owls have also accepted my nesting platforms. Many of my boxes have been occupied by Tree Swallows, Black-capped Chickadees, Kestrels, Flickers, Starlings, Wood Ducks, and Hooded as well as Common Mergansers. Ducks have nested in a couple of my owl boxes 10 metres above the ground. Deer Mice, Fly-

ing and Red Squirrels, Porcupines, Raccoons, and sometimes hornets have also taken over boxes intended for birds.

Recording nests of day-hunting raptors is always exciting. Forty years of records from one woodlot give an account of Goshawks nesting during most years. Their piercing cries and flying skills at the nest as they pass over your head is a true wilderness experience. On one pass too close, my cap was last seen clutched in talons flying over the tree tops. Another interesting study involved Brown-headed Cowbirds. Up until the mid-1990s, I would find eggs or young of this brood parasite in many nests of thrushes, vireos, sparrows, and especially warblers. In recent years, I seldom find cowbirds in Kings County. I marvel at the female cowbird's ability to locate nests to deposit eggs. They are birds of farms and open areas; however, a Blackburnian Warbler nest I found deep in a wooded area contained two warbler eggs and one cowbird egg.

Warbler-nest hunting became another challenge. To be successful, one must learn warbler songs along with required habitats and nest sites. Ground-nesting Tennessee, Nashville, and Ovenbird nests were nice finds. Most Chestnut-sided Warbler nests were found in Bush Honeysuckle. All Parula nests were basket-shaped, hanging in *Usnea* lichen midheight in the nest tree. My favourite has to be two Cape May Warbler nests among cones at the very top of spruce trees. The first on Wolfville Ridge in 1981 was 8 metres from the ground, while the second at Sunken Lake was 13.7 metres above ground. Rigging up a mirror on a stick after climbing up to just below the nests, I was able to count the eggs. Nests of 19 species of warblers were recorded. Now, I must admit with aging eyes, it has become harder to locate nests of our secretive warblers.

Flycatchers were also fun to study. Bold kingbirds nesting in stumps along canoeing routes, Yellow-bellied Flycatcher nests in the moss of dark, secluded stream banks, and Olive-sided Flycatchers back in the hinterlands come to mind.

Forty years contain lots of memories. Trips with Cyril to Boot Island, where I climbed to cormorant and heron nests. Canoeing in Black River Lake to climb up inside a dead pine stump to record a

Chimney Swift nest. Taking Robie Tufts at age 94 to show him his last Pileated Woodpecker nest. Finding my only Bobolink nest after a field was mowed. Orchid hunting trips to Methals Lake Bog, where I have found Lincoln's Sparrow and Rusty Blackbird nests. March visits to Barred Owl nestboxes still get me excited seeing these marvellous owls accepting my efforts to provide them with a home.

Back in 1975, I had no idea where this project would lead. Many of the nest records have been included by researchers during various bird studies. One paper on Spotted Salamander predation contains records of predation by Barred Owls from Spotted Salamanders I have found in owl nestboxes.

Totals for the numbers game: nests of 123 species of birds; forty years – 4,000 bird nests.

— *Natural History* —

CHIMNEY SWIFT CRYPTOZOOLOGY

BY JAMES CHURCHILL

Every year, between May and September, hundreds of Chimney Swifts divebomb into the Robie Tufts Nature Centre (RTNC) chimney on Front Street, Wolfville. Like a black hole, at dusk, clouds of birds are sucked down into this single chimney vortex. You can almost hear the portal doors close up tightly after the last few are sucked in each night. The sky goes black and crickets chirp – it's a bit spooky, really.

But what's spookier is that despite these flashy, vociferous, social, nightly spectacles at major roost sites, Chimney Swifts are incredibly private and cryptic with the rest of their lives. We know so very little about what these birds are doing during the breeding season that sometimes it feels like we're engaged in cryptozoology.

You might be familiar with true cryptobiota. If you haven't seen a Sasquatch yet, your turn might be next because sightings have been on the rise (<http://huff.to/1ESKH45>) since the famous "Patterson Film" of 1967. However, Chimney Swifts differ from Sasquatch in a

few key ways: there are specimens in the Nova Scotia Museum of Natural History, there is a reputable organization devoted to their study (Maritimes SwiftWatch), and populations have been decreasing – dramatically – since the '60s. But one huge part of this story that is missing, that makes these birds such a mysterious species in Nova Scotia, is ... where are all the nests? “Chimneys, of course” is the obvious answer, but despite over 40 years of documented occupation of the RTNC chimney, no nesting sites have ever been confirmed in Wolfville. On the other hand, historic reports indicate that swifts more commonly nested in barns, in some parts of New Brunswick, than in chimneys. And you might recall Donna Crossland and Mark Elderkin’s phenomenal discovery, last year, of numerous barn-nesting swifts in East Dalhousie. So are we maybe looking in the wrong places and have even misnamed this species? Or maybe both barns and chimneys are vital – we just don’t know. Whatever the case, a few more bricks were put into place this summer when Ruth Butler’s keen ear and intuition led to a spectacular discovery.

As we pass a cage of Scarlet Macaws and original Victorian furnishings, we ascend two flights of stairs to historic maid’s quarters in the attic of Ruth’s Wolfville home. Ruth points to a thin, decorated, metal plate covering a hole in the chimney that rises through the centre of the room. “The noise was coming from here,” she mentions, pointing to the plate, “I think it must have been an offshoot to provide heat to the maids living up here in years past.” As we wait for evidence, we approach the window at the far side of the room to check the view from up here. Almost immediately, we are interrupted by the sound of a toy robot – one of those ones you wind up and let clumsily stumble across a table – the archaic sound of begging Chimney Swift nestlings. Within moments, an adult is also chirping from behind the plate. We collect audio files for documentation. Later, it is confirmed that a video camera, left in the driveway while we were inside, captured the fleeting moment of an adult swift diving into the chimney. A week later, during my visit to inquire about the birds, Ruth’s grandson is seated at the kitchen table. Feeling a bit embarrassed about my excitement that the swift

family is still present and active, I explain that I am a crazy birder, and ask him how it feels to have such a famous grandmother. He mentions something about “selling tickets.”

Spurred on by the excitement of Ruth’s great find, three volunteers and one video camera carried out about 30 hours of chimney watching in the Valley between the end of July and the beginning of August. They discovered eight more occupied chimneys, including four sites in Wolfville, three in Kentville (including reconfirmation of one traditional roosting site), and one in Middleton. Four of these were found by fast-forwarding through video camera footage. One new Kentville site was discovered by my 5-year-old daughter reviewing footage obtained while we were across town for soccer practice. “Daddy, I think I just saw one!! But it might have just been a leaf.” A biologist friend, upon seeing her footage, replied, “a bit like a Sasquatch video. Just saying.”

Unless you are fortunate enough to hear nestlings inside a chimney, it’s clear why so few swift-occupied chimneys are ever stumbled upon. From the ground, evidence that a given chimney is occupied is minimal. Birds cover large areas during the day, following clouds of aerial plankton, across home ranges that encompass many buildings and many chimneys. There is no precursory chittering and swirling above occupied chimneys before entering. Unlike many songbirds, there are no males delivering territorial songs at the periphery of a territory. Chimney entrances and exits are quiet and direct and flash by in the time it takes to explain to onlookers what you are staring at, or to answer your phone. But all around us, all summer long, in Wolfville, Kentville, Middleton, and towns in between, on university campuses, in apartment buildings, hospitals, schools, bed and breakfasts, public libraries, churches, and homes, cryptic Chimney Swifts are silently letting their backbones slide into uncapped chimneys to rest and to raise young.

If we hadn’t reduced so dramatically Nova Scotia’s old forests and big hollow trees, traditional nesting sites, it would be tempting to think that maybe we are overlooking entrances and exits into many of those too. And maybe all it would take is for a quiet, perceptive,

wilderness roamer to stumble upon a few more of these natural nest sites. Or, in the absence of Bernard's sixth sense for nest finding, some of us, with some significant help from technology.

We will be continuing the search for more occupied chimneys and barns next season. Please contact me if interested in helping with the treasure hunt, or if you have a video camera you would be willing to lend to the effort.

— Into the Past with Robie —

**WOODS, WATER AND SKY:
WRITINGS BY ROBIE TUFTS**

BY RACHEL COOPER

Robie Wilfred Tufts (1884–1982), of Wolfville, was Chief Migratory Birds Protection Officer for the Maritime provinces from 1919 to 1947. He was also founding president of the Nova Scotia Bird Society and author of the highly regarded *Birds of Nova Scotia*, first published in 1961. He held honorary degrees from Acadia and Dalhousie universities, and his papers are housed in Acadia University's archives.

From the early 1940s to the 1970s, Robie Tufts wrote a regular column, "Woods, Water and Sky," for the *Chronicle Herald*. A scrapbook of those columns (undated) was put together by Lloyd Duncanson, who joined the staff of the Nova Scotia Museum of Science in 1950 and later became its curator, and by Eric Dodge of Middleton, a young amateur ornithologist who died in 1955 at the age of 25. The scrapbook – now in the care of Mark Elderkin, Species at Risk Biologist, Wildlife Division, at the Nova Scotia Department of Natural Resources – is destined for the Acadia archives, but BNS has been given the opportunity to publish a sampling of Robie's columns.

This is the third in the sampling, a column from the 1940s, exact date unknown.

In the 1940s, Bald Eagles were rare in Kings County. Even so, they were reputed to be "bad birds," and hunters and farmers would often kill them on sight. (Today, of course, they're with us year-

round, protected under the Wildlife Act.) Robie's column dealt matter-of-factly with the hunting of game birds. But he had no patience with hunters who killed merely for the sake of killing, especially those who killed eagles.

The excerpts below, from two undated columns of the 1940s, describe two different reactions to these large birds.



Robbie Tufts, 1943

Today we received a phone call from E.H. Mosher, chief operator of a hydro-power plant on the Black River, Kings County, system of the Nova Scotia Light and Power Company. He called to inform us that three large eagles were hanging about the pond below the turbine. He said they had been there for some days. Two had white heads and tails and one was dark coloured. After explaining that the ones with white heads and tails were the old birds and the dark one was immature, less than four years old, we asked what was attracting them there.

He informed us that small fish were going through the turbine and of course many were being killed and the eagles were sharing the spoils with a bunch of crows which likewise had come from far and near to enjoy the banquet. Incidentally, it was refreshing, to say the least, to have the officer inform us that he had no intention, or desire even, to harm these big birds. He said he enjoyed having them about and watching their majestic flight manoeuvres...

At the time of our visit, only the crows were there to greet us.... When they spotted a dead fish floating down stream below the turbine, it was interesting to watch these clumsy black rascals hover

over the water and after the manner of a gull pick up the small fish without getting themselves wet. They would grasp it in their beaks and fly off to a nearby perch to devour it...

In Nova Scotia [eagles] are rare, majestic and impressive birds, and if each hunter when on the business end of a gun would ask himself, when about to “draw a bead” on an eagle, “What good will it do me to kill it?” or “After all, what harm is it doing?” fewer of these kings-of-the-air would be wantonly killed.

Robbie Tufts, November 1944

On October 31 the order to “cease fire” was sounded, thus releasing the pressure on Woodcock, Hungarian Partridge, and Pheasants in Nova Scotia. During the respective seasons for these fine game birds, the Weatherman was most kind and considerate of the hunter for it is stated by the authorities in charge of such matters that October 1944 was the driest October in 100 years. Day after day of warm golden sunshine prompted gunners to take to the coverts and in certain sections the Woodcock in particular were hunted relentlessly.

The presence of the foliage, however, which remained on later than is usual, favoured the birds greatly in the early part of the month, at which time the situation with respect to them looked pretty hopeless to some of us...

We were somewhat distressed to hear over the radio another story of a “valiant” hunter who brought down an eagle. From the way it was related, it was made to appear that the hunter was to be commended for his bravery and daring in bringing down an eagle wounded by the use of a shotgun, and then dispatching the crippled bird by means of a club.

If there was anything particularly valorous about the hunter’s action that point has so far escaped our notice. This appears to be just one more example of the “It’s alive, let’s kill it” idea. Eagles are probably the most picturesque birds we have and the sight of one soaring over the countryside cannot fail to impress and please the true nature lover.

Furthermore they are for the most part scavengers and usually resort to killing only when driven to it under stress of hunger. The stories which have from time to time been circulated telling of an eagle which carried off a child have been found to be fictitious in every instance. On this point we are reliably informed. Why then kill a bird which is both beautiful and at the same time harmless if not even beneficial to mankind? In the United States the eagle is protected at all times by Federal statute which is rigidly enforced. Canada, in our opinion, should do likewise.

— *Conservation* —

KENTVILLE RAVINE – A PROGRESS REPORT

BY KEN HARRISON

Earlier this year, there were meetings between the Town of Kentville and Agriculture & Agri-Food Canada officials in Kentville and Ottawa. We are hearing that both parties are very motivated to have the Town of Kentville take over management of the Kentville Ravine. The town has already done preliminary assessments of trails and bridges in the Ravine to ensure that they would not be assuming a major liability. Progress is being made.

When a management agreement is signed between the Town of Kentville and the federal government, we suspect that one of the early priorities will be to reconnect the trail to Main Street and the existing Kentville trail system. A small footbridge will be needed to cross Elderkin Brook, and some boardwalk may be required in the wet area created by the beavers in recent years in the lower part of the Ravine.

The Friends of the Kentville Ravine Society hope we will see significant progress this fall to draft and sign a formal management agreement. If this agreement could be finalized over the winter, 2016 could be the start of something wonderful.

For BNS members who haven't had a recent opportunity to visit the Ravine, take a look at Paul Illsley's website: www.paulillsley.com/

Kentville_Ravine_Trail/. The base map gives an excellent overview of the Kentville Ravine. At the bottom of the image you will see the mobile homes, house, and barn that used to exist on the former Sawler property. That land now belongs to Kent Building Supplies, and all the mobile homes and buildings have been removed. Since 2014, Kent has had a formal development agreement in place with Kings County, which includes a walking trail easement that permits access to the Kentville Ravine trail along Elderkin Brook at the southern edge of the Kent property. To date, Kent has not begun to build on its property.



BRIAN MCKIBBIN

A BLACK-AND-WHITE WILDFLOWER GUIDE?

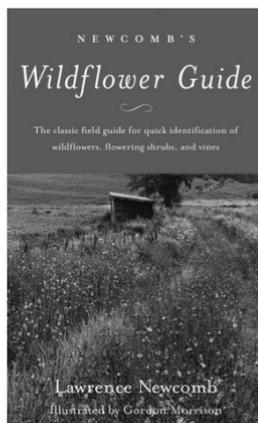
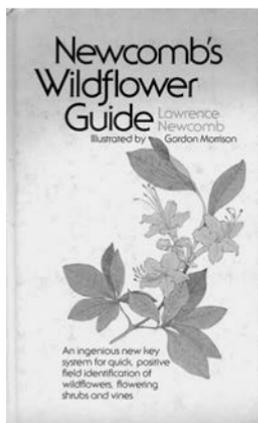
BY PATRICK KELLY

In today's world of colour photography, it is rare to come across a nature guide that has almost no colour, especially one for identifying wildflowers. My main field reference for wildflowers used colour as the first step, which in some cases is easy; in others it can be hard to figure out if a "purple" flower is closer to blue or red. The next step is usually an exhaustive search through the appropriate colour section to spot other characteristics that will help you narrow the search. What if there were an easier way to do it? It turns out there is!

I was introduced to this book more by accident than by searching for it. As a frequent co-leader of the spring hikes out to Cape Split, I knew that Jim Wolford always carries his trusty *Newcomb's Wildflower Guide* (by Lawrence Newcomb) with him. Jim's motto is, If you find an unknown plant, you nuke it! As I was always more concerned with birds, I left the wildflowers to Jim, and it was rare that we would come across something he did not immediately recognize, so I didn't really see a lot of the book. I had assumed it was a pretty standard guide until I recently came across one at the silent auction at this year's joint Nature Nova Scotia / Nature New Brunswick conference.

As I flipped through it, my first impression was the lack of colour plates, with only about one for every ten pages of very detailed line drawings. Flower colour is noted in parentheses next to the name of the plant, which makes for a more compact book, as there is no need to duplicate flowers that have more than one colour. Thus Dame's Rocket appears once with the notation: (purple, pink, white). This is good, as the book describes almost 1,400 wildflowers common to the northeastern United States and southeastern Canada.

So how do you work without colour as the main key? The guide asks you three fairly straightforward questions about the plants. The answer to each question gives you a single digit. Put them together



The cover artwork from two editions of Newcomb's Wildflower Guide, the 1977 hardcover edition (left) and the 1989 paperback edition (right).

to get a three-digit number, which you then use to find the appropriate pages:

- What type of flower does it have? Possible answers (and the corresponding number): irregular [1], 2 regular parts [2], 3 regular parts [3], ... 7 or more regular parts [7], and parts indistinguishable [8].
- What type of plant is it? Answers: wildflower with no apparent leaves [1], wildflower with only basal leaves [2], wildflower with alternate leaves [3], wildflower with opposite or whorled leaves [4], shrub [5], and vine [6].
- What kind of leaf does it have? Answers: no apparent leaves [1], leaves entire [2], leaves toothed or lobed [3], and leaves divided [4].

There are illustration to help guide you. The leaves, in particular, can be a bit tricky. The leaf is entire if the edge of the leaf is even. Regular shallow indentations forming a toothed or scalloped edge makes the leaf toothed. Lobed leaves are like the those on a maple or an oak; however, traditionally leaves that are lobed at the base only (arrow-shaped, or heart-shaped) are considered either entire

or toothed, depending on their edges. Divided leaves are like those on an ash. The book cautions beginners not to mistake a divided leaf for a branch. This category also has an extra twist: leaves that have indentations that go almost to the midrib are also considered divided. Dandelion is an example.

Let's try it with a fairly common wildflower: the flower has five regular parts, so the first digit is 5; it has basal leaves only, so the second digit is 2; the leaves are divided, so the final digit is 4. We use the locator key and look up 524. If the plant has more than 3 leaflets it will be found on page 182; if it has only 3 leaflets it will be on page 184. This plant has only three leaflets, so let's see what's on page 184. The top half of the page is for plants with toothed leaflets, while the lower half is for plants where the leaflets are entire or notched at the tip. The plant we want has toothed leaves, and a quick glance at the top of the page shows us our mystery plant: Wild Strawberry!

For each plant, the first sentence of the description states what makes it unique. I have said that colour is not used, but that is not quite true. Some key numbers fit a lot of plants, so it is not uncommon for the key to request additional information. For example, key number 543 is for plants with five regular parts and opposite or whorled leaves that are toothed or lobed. Rather than making you flip through four pages, it helps you narrow it down. Yellow flowers are on page 278. Non-yellow flowers with leaves deeply cut or lobed (halfway or more into the leaf) are on page 280. Non-yellow flowers with leaves toothed or shallowly lobed and with flowers in slender spikes or racemes or growing in the axils are on page 282. The final group, non-yellow flowers with leaves toothed or shallowly lobed and with flowers growing in heads or in one or more small clusters, will be found on page 284. Two genera of plants – goldenrods and asters – are not treated like all the others because the system would tend to scatter them throughout the book. Instead, they have separate sections in the book.

In addition, the book contains a quick listing of the three questions (inside front cover), an illustrated discussion on the parts of a flower, a short glossary, a comprehensive index, and illustrations of

terms used to describe leaves (inside back cover). All in all, a great guide! The only problem is that it has been out of print for quite some time. The edition I have has a copyright date of 1977. The book can be found online, and given that many may not have heard of it, I felt that a new review of an older book might be a good way to bring it to the attention of others.

— Nature Counts —

20TH ANNUAL LOON COUNT AT KEJIMKUJIK NATIONAL PARK

BY JO BISHOP

Sunday, August 23, 2015 – another day in a hot, dry, but humid week with sunrise temperatures averaging 18–20°C. Sunday also marked a very special day for volunteers who monitor loons at Keji Park. It was the 20th anniversary of the count.

The monitors are all people who like loons and are interested in their survival, like to canoe, don't mind sweat, blisters, a few mosquitoes, lunch on a log, practical jokes, and a good unexpected ducking or at the least wet feet and pants.

The count is conducted in two phases, the first in late May or very early June. Volunteers arrive at their chosen lake sites in time to record the numbers of adult birds, territorial pairs, and single loons during a specific time period.

During the weeks between this phase and the phase two count in mid-August, the park staff monitor reported pairs for nest sites and eggs.

For phase two, volunteers again go out for a specific three-hour period to record the number of surviving juveniles.

I got into this venture by mentioning at tea sometime last December that I would like to take part in the 2015 count. About 10:30 p.m. on August 22, I had a phone call from an old friend. "Get your skates on. Be at 44.699987 N × 65.484905 W by 9 a.m. sharp tomorrow if

you want to go on the loon count.” Shades of “your mission, if you choose to accept it ...” (Of course I agreed. In for a penny ...) Well, I’ve heard those coordinates before – it’s the parking lot on Hwy 8 just south of Hwy 101, Exit 22, Annapolis Royal.

Arrived at the location about 8:40 a.m., got out to stretch and photograph some cattails along the parking lot edge. There was a bit of crashing around in the bushes south of the lot. Heard a bit more noise and a swishing sound. Decided against a deer or porcupine – too much noise. Looked up just in time to see a brown bear about a year old pass by a gap in the bushes. It was picking blackberries. Just then my ride pulled in, so the bear was left with the honours of the field. (If it had stayed still I would have had a picture and bragging rights.)

All participants gathered at the Keji Mill Falls shelter for lake assignments, briefing by Donna Crossland of Parks Canada, Peter Hope (retired from Keji but now a volunteer with Loon Watch), and several other loon experts. The briefing took about 15 minutes. Pictures of juvenile birds were shown as well as a frozen carcass of a juvenile found on Hwy 8 several days before. An adult eagle was said to have dropped the loon when challenged by another eagle. The remains were turned in to park staff. It was then tagged and frozen and will be sent, along with other animal/bird specimens, to Fredericton for necropsy and tissue samples. While it was sad that this bird was killed, it was a valuable experience to us all to have a very close view of a juvenile.

This fatality raised a contentious theory – that “BNS activity has encouraged Valley farmers to feed eagles on poultry carcasses until there are now over 4,000 Bald Eagles in the Valley.” And that eagles are now seeking nest sites outside the Valley area.

Besides being outnumbered and feeling like a foreigner in the Promised Land, I had no wish to start any arguments. However, I will concede that although the number of eagles thought to populate the Valley is way too high, it is likely that the eagles – and hawks for that matter – are simply fanning out to occupy areas they once inhabited. The rub is that the eagles are doing this at a time when



KRISTINA LEHTONEN

loon breeding and chick survival is at a low in Keji and South West Nova.

After the briefing, light snacks, route assignments, and a group photo, all volunteers were given a 20th Anniversary Loon Count souvenir mug. A very nice gift. Then it was time to be on our way.

Our site was Minard's Bay. It is on the southwest end of Keji Lake, about a 10 km drive from the briefing site. Lots of interesting lichens, a fawn, and three Blanding's Turtle nests were seen along the way. The nests were all protected, by wire mesh and traffic cones, from predators and people.

Because of a defunct bridge it was a long paddle to reach our site by noon. Temperature was about 28°C in the blazing sun in a clock calm. Consumed 3 L of water on the way to the start point, and more afterwards.

Minard's Bay has a long spit of land, almost an island on the east side, as well as several islands. This added to the paddle distance. The count period finished at 3 p.m.

At 3:15 p.m., we stopped at campsite 25 at the south end of the bay and had lunch. No minnows seen in the pond weeds, but there were hundreds of dragon and damsel flies cruising the weeds. Worth more study. You've never been told off until a dragonfly has buzzed you and left in disgust when you are in the middle of a lake!

A long paddle back against a rising breeze to leave the lake by 5:45 p.m. Our results were taken, although they occurred outside the count period: heard two loon calls from Keji Lake about 11:45 a.m., saw one adult off campsite 25 at 3:15 p.m., and heard two or three abbreviated high-pitched loon hoots but not an alarm call at 4:15 p.m. in the bay east of Western Run entrance. (What a rocky patch in that entrance!)

The official results of the count won't be out for some weeks yet, but here are the unofficial results:

- 6 juveniles reported: 2 at locations not previously reported / 4 seen over the summer
- 3 previously reported juveniles were not seen in their designated areas at all
- this count reported the most juveniles since the August 1999 count
- no juveniles were reported on Keji or Grafton Lakes this year; previously they had some of the best hatch rates

This was a wonderful adventure for a worthwhile purpose. More members should try to aim for one or both monitoring events next year, if only to prove that it does pay to make idle requests while drinking tea.

DISCOVER CHIGNECTO!

BY PATRICK KELLY

June 5–7, 2015 – Nature Nova Scotia held its annual general meeting (AGM) in Sackville, New Brunswick, this year. That may seem at first glance like an odd location, but we were invited there by Nature New Brunswick. The Chignecto Naturalists' Club was hosting Nature NB's AGM and conference at that location and they felt that it would be interesting if both groups held their meetings at the same time so that people from both groups could meet and exchange ideas. This was a change for Nature Nova Scotia. Our conferences are typically organized by volunteer members of the board, but as Nature NB has two paid staff and were willing to make all the arrangements as long as we could provide some field trip leaders ... well, it was too good an opportunity to pass up.

The theme for the event was *Discover Chignecto!* and there was an extensive program of field trips, presentations, and workshops – 46 from which to choose, with additional ones for the young naturalists. The event proved to be so popular that they had to cap the registrations at around the 275 mark. The field trips were of varying length, both full-day and half-day outings. While the theme was the Chignecto area, some of the day trips were as far away as the west shore of the Petitcodiac River south of Moncton and Cape Jourimain at the Confederation Bridge. A few were early-morning or evening events.

On Friday a social and potluck at suppertime was followed by the two AGMs, which were held concurrently. At the Nature Nova Scotia AGM, reports were received from the various member clubs, the treasurer's report was approved, and Bob Bancroft and Jean Gibson Collins were re-elected as president and treasurer, respectively, for another two-year term.

For the early risers, Saturday morning began with a birding trip to the Sackville Waterfowl Park. There was an excellent continental

breakfast, and then it was time for people to head off to their chosen events for the day or to stay to attend presentations or workshops. Getting up to eight field trips on the road at the same time required military precision and worked well. Saturday evening was a banquet, with a cash bar and silent auction, which included a lot of interesting items and many books. The evening included the presentation of awards, and there was excellent entertainment to top things off.

Sunday started the same as Saturday, and things wrapped up before supper. It was a great event, and I'm certainly glad that I attended, as I got to meet a lot of naturalists I knew by name but had never met in person. The Nature NB AGM is hosted by a different member club each year. I hope that the next time it is in Sackville the two organizations hold a joint meeting. Based on the success of this event, if that does happen, you had better register early!

Field trips, workshops, & presentations

1. Peepers and Friends (Ron Arsenault)
2. Nature Beyond Our Earth (Angus Findlay)
3. *eBird*: a Revolutionary Birding Tool – Presentation (Peter Thomas & Karel Allard)
4. Early Morning Birding at the Sackville Waterfowl Park (Eric Mills)
5. The Impact of the Bay of Fundy Tides and Rising Sea Level (Ken Adams & Etta Adams)
6. Birding the Tantramar Area (Normand Belliveau)
7. Coastal Landscapes: From Cape Jourimain to Cape Tormentine (Roland Chiasson & Andrew Macfarlane)
8. Native Flora (Bill Fairbanks & Tony Erskine)
9. Ecology of the Intertidal Zone (Diana Hamilton)
10. Chignecto National Wildlife Area: Gypsum Gems and Green-winged Teal (Al Hanson)
11. Adopt a Clearcut / Acadian 'Food' Forest (Daimen Hardie & Peter Manchester)
12. Bobolinks on the Tantramar (Peter Thomas)

13. Not a Birder? No Problem. How Technology Can Broaden the Scope of Citizen Science for Bird Conservation (Laura McFarlane Tranquilla)
14. Maritimes SwiftWatch: Understanding Canada's Mysterious House Guests – Presentation (Ally Manthorne)
15. A Place Between the Tides: A Naturalist's Reflections on the Salt Marsh – Presentation (Harry Thurston)
16. The Atlantic Canada Shorebird Surveys: How Citizen Scientists are Tracking Atlantic Canada's Declining Shorebird Populations – Presentation (Julie Paquet)
17. An Opportunity Missed: the Chignecto Ship Railway (Bill Casey)
18. Guided Interpretive Walk at Johnson's Mills (Kerry Lee Morris-Cormier)
19. Backyard Beekeeping and Wild Pollinator Enhancement (Peter Hardie)
20. Birding in the Sackville Waterfowl Park (Bob McDonald)
21. Birds and Plants of the Amherst Point Migratory Bird Sanctuary (Eric Mills)
22. Plants of the La Coupe Bog, Jolicure, NB (Ruth Newell)
23. Wild Edible and Medicinal Plants (Greg Osowski)
24. Nature Walk on the Pugwash River Estuary (Sarah Witney)
25. Lyme Disease in NB and NS – What it is and how not to get it – Presentation (Vett Lloyd & Jim Goltz)
26. North American Wood Turtle (*Glyptemus insculpta*) Stewardship and Threat Identification in the Petitcodiac Watershed – Presentation (Courtney Smith)
27. The Canadian Wildlife Service in the Maritimes: Our Role and Your Contribution – Presentation (Becky Whittam)
28. Nocturnal Wildlife (Becky Whittam)
29. Early Morning Birding at the Sackville Waterfowl Park (Andrew Macfarlane)
30. Sandstone Shoreline of Cumberland Basin (Paul Bogaard)
31. Birding the Memramcook Valley with CBC's "Acadian Birder" (Alain Clavette)
32. Butterflies, Dragonflies and Anything That Flies (Denis Doucet)

33. Joggins Fossil Cliffs: Coal Age Plant and Animal Fossils (Ken Adams & Etta Adams)
34. Plants and Birds of the Acadian Forest at Breau Creek, NB (Sean Blaney)
35. Working for Wetlands – Our Birds, Fish and Marshes (Adam Campbell & Nic McLellan)
36. Birding on the East Amherst Marsh (Patrick Kelly)
37. Historical Tantramar: a Tour into Yesteryear (Al Smith)
38. An Introduction to Plant Identification – Workshop (Sabine Dietz & Gart Bishop)
39. Raising and Tagging Monarch Butterflies – Workshop (Jim Wilson, Rheal Vienneau, Kathy White)
40. Butterflies & Insects (John Klymko)
41. Getting to Know the Flora of Bogs, Fens and Other Wetlands (David Mazerolle)
42. Pond Life (Jim Wolford)
43. Tour Sackville's Museums (Karen Valanne)
44. A Naturalists' Approach to Photographing Nature – Workshop (Paul Mansz)
45. Mending Broken Rivers – Presentation (Bob Bancroft)
46. Bird Mortality in Canada from Cats and Other Human-related Sources – Presentation (Richard Elliot)

— *Nature Counts* —

NOVA SCOTIA MIGRATION COUNT 2015

BY LARRY BOGAN, COORDINATOR

Saturday, May 9, 2015 – The NSMC is on the second Saturday of May each year. The weather this year started at 6°C at 7 a.m. and warmed to 16°C in the afternoon. The sky was overcast in the morning but cleared by 10 a.m., and clouds appeared in the afternoon. The wind came up in the afternoon to a brisk 30 km/hr. Twenty observers surveyed sections of Kings County from Berwick east and observed over 4800 birds of 87 species. In addition, seven observers counted

264 birds at their bird feeders. The numbers are down this year from previous counts: 2015 (87 species); 2014 (101); 2013 (97); 2012 (112).

This year spring was late and not many warblers had made it north by count day. Many observers commented that they saw fewer species this year than last.

Thanks to the two dozen observers who devoted part of their day in May to look for and count birds. They put in 20.2 hours at feeders, 43.3 hours on foot (92 km), and 24.3 hours by car (376 km).

Species	Number counted		
	Field	Feeder	Total
Canada Goose	33	0	33
Wood Duck	3	0	3
American Black Duck	20	0	20
Mallard	78	2	80
Blue-winged Teal	2	0	2
Northern Shoveler	4	0	4
Green-winged Teal	15	0	15
Ring-necked Duck	30	0	30
Surf Scoter	20	0	20
Black Scoter	7	0	7
Red-breasted Merganser	4	0	4
Ring-necked Pheasant	96	6	102
Ruffed Grouse	11	0	11
Pied-billed Grebe	1	0	1
Double-crested Cormorant	58	0	58
Bald Eagle	34	1	35
Sharp-shinned Hawk	2	0	2
Red-tailed Hawk	10	2	12
Merlin	1	1	2
Killdeer	1	0	1
Greater Yellowlegs	2	0	2
Wilson's Snipe	2	0	2
Ring-billed Gull	22	0	22

Herring Gull	1084	1	1085
Iceland Gull	3	0	3
Lesser Black-backed Gull	2	0	2
Glaucous Gull	1	0	1
Great Black-backed Gull	219	0	219
Rock Pigeon	48	0	48
Mourning Dove	65	11	76
Barred Owl	4	2	6
Chimney Swift	7	2	9
Ruby-throated Hummingbird	1	5	6
Belted Kingfisher	1	0	1
Yellow-bellied Sapsucker	6	0	6
Downy Woodpecker	38	11	49
Hairy Woodpecker	11	2	13
Northern Flicker	54	2	56
Pileated Woodpecker	3	2	5
Eastern Pheobe	4	0	4
Eastern Kingbird	2	0	2
Blue-headed Vireo	26	1	27
Blue Jay	134	15	149
American Crow	234	15	249
Common Raven	78	0	78
Tree Swallow	83	2	85
Barn Swallow	49	0	49
Black-capped Chickadee	171	20	191
Red-breasted Nuthatch	16	1	17
White-breasted Nuthatch	6	3	9
Brown Creeper	2	0	2
Winter Wren	1	0	1
Golden-crowned Kinglet	2	0	2
Ruby-crowned Kinglet	4	0	4
Hermit Thrush	2	0	2
American Robin	158	8	166
Grey Catbird	5	0	5
European Starling	337	10	347

Northern Parula	31	0	31
Yellow Warbler	25	0	25
Chestnut-sided Warbler	2	0	2
Magnolia Warbler	2	0	2
Yellow-rumped Warbler	139	1	140
Black-throated Green Warbler	16	0	16
Palm Warbler	4	0	4
Black-and-white Warbler	33	0	33
American Redstart	3	0	3
Ovenbird	21	1	22
Common Yellowthroat	2	0	2
American Tree Sparrow	1	0	1
Chipping Sparrow	22	1	23
Savannah Sparrow	23	0	23
Song Sparrow	232	5	237
Swamp Sparrow	1	0	1
White-throated Sparrow	22	7	29
White-crowned Sparrow	1	1	2
Dark-eyed Junco	31	7	38
Northern Cardinal	25	5	30
Rose-breasted Grosbeak	9	2	11
Red-winged Blackbird	188	8	196
Common Grackle	141	5	146
Brown-headed Cowbird	2	0	2
Purple Finch	56	19	75
Pine Siskin	3	6	9
American Goldfinch	232	71	303
Evening Grosbeak	17	0	17
House Sparrow	2	0	2
<hr/>			
TOTAL	4603	264	4867
TOTAL SPECIES	87		

**SUMMER WEATHER 2015,
EASTERN ANNAPOLIS VALLEY**

BY LARRY BOGAN, CAMBRIDGE STATION

When the summer season started, June was still warming up from the very late snow cover in the spring, and the summer just kept warming. The chart of daily temperatures shows steady increase in temperatures right to the end of August. Note also that there are generally large swings in the daily temperatures all season because of lower minimum and higher maximum temperatures.

	TEMPERATURE			PRECIPITATION
	Max (°C)	Min (°C)	Mean (°C)	Total (mm)
JUNE 2015 (30 yr. average)	19.3 (21.5)	8.7 (10.4)	14.0 (16.0)	164 (82)
JULY 2015 (30 yr. average)	24.5 (24.9)	13.1 (14.0)	18.8 (19.5)	27 (84)
AUGUST 2015 (30 yr. average)	27.0 (24.3)	15.6 (13.6)	21.3 (19.0)	95 (77)
SEASON (30 yr. average)	23.6 (23.6)	12.5 (12.7)	18.1 (18.2)	286 (243)

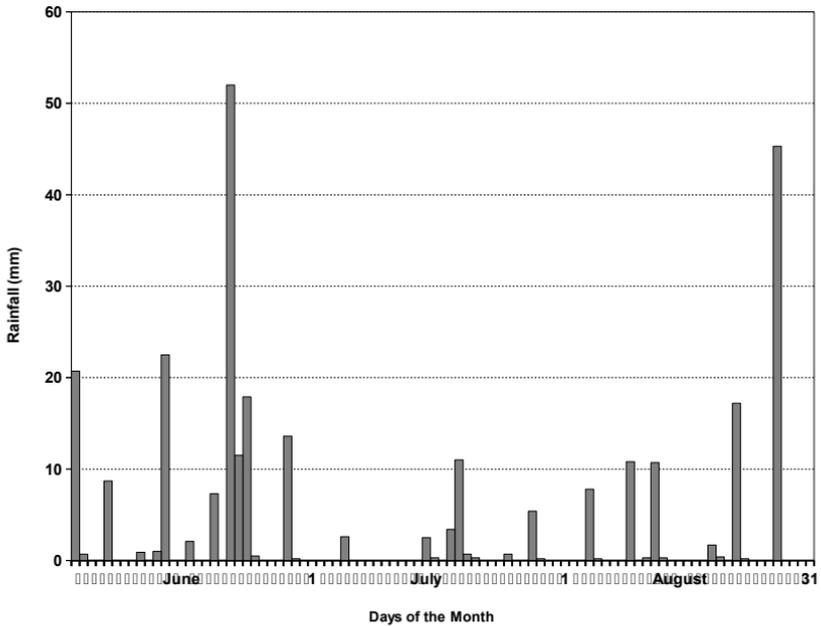
Source: Environment Canada data for Kentville, NS (<http://weatheroffice.gc.ca>). 30-yr. averages: 1981–2010.

Temperature

June was 2.0°C cooler than the average, July was close to normal, but August was 2.3°C above the average. The whole season was just average in temperature. The summer felt hotter than normal

Daily Rainfall

Kentville, NS June, July, August 2015



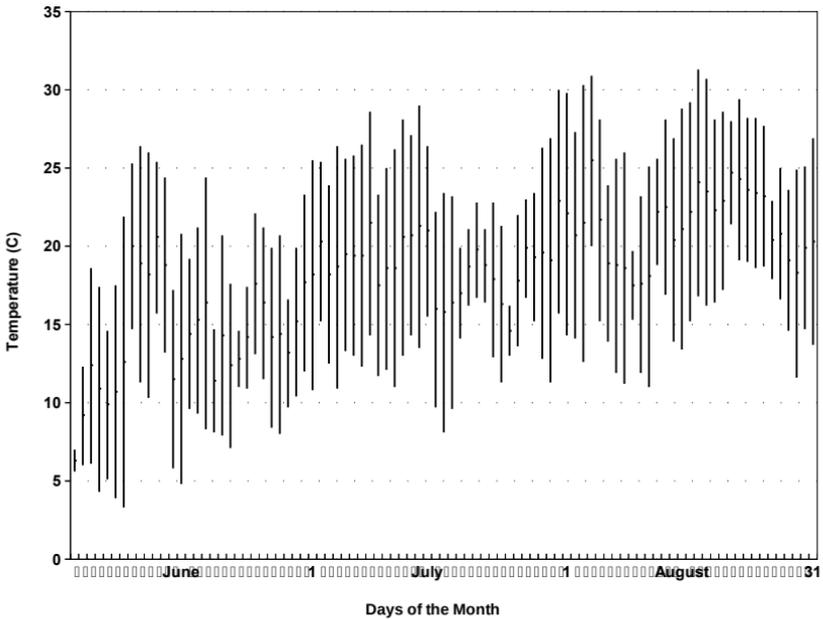
because the average maximum temperatures were higher; August, for example, had an average maximum temperature 2.7°C above the long-term average. Kentville had four days at 30°C or higher in August.

Precipitation

Precipitation was actually above average by 43 mm for the summer, but only because we had twice the expected amount in June. July was very dry, with only one-third the average rainfall for the month. Due to a late-month downpour, August ended up above average by a small amount. The chart of daily rainfall shows the uneven distribution of rainfall. In the 62 days from June 23 through August 26 only 91 mm of rain fell in Kentville, while during the 30 days at the beginning and end of the summer, 194 mm fell. Another way

Max, Min, and Mean Daily Temperatures

Kentville, NS - June, July, August 2015



of saying this is that in the middle two-thirds of the summer we got 1.5 mm of rain per day, while in the third of the summer at the beginning and end we got 6.5 mm/day.

— *Astronomy* —

WHAT'S IN THE SKY?

BY ROY BISHOP

Highlights for November 2015 through March 2016

NOVEMBER 1: Standard time begins

NOVEMBER 6, 7, 8 (dawn sky): Moon + 3 planets (see below)

NOVEMBER 11: New Moon

NOVEMBER 25: Full Moon

No bright planets decorate the evening sky in November. Of the five bright planets, Mercury and Saturn, those closest and furthest from the Sun, spend most of November hidden behind the Sun, while Venus, Jupiter, and Mars (in descending order of brightness) are in the morning sky. If the sky is clear, early risers will see a spectacular sight in the eastern sky before dawn on November 6, 7, 8 and 9. The waning crescent Moon passes Jupiter (on the 6th), Venus and Mars (on the 7th), and lies progressively further below the three-planet array on the 8th and 9th. Look between 05:00 and 06:00, although the spectacular Moon-Venus-Mars group rises in the east at 03:00 on the 7th.

DECEMBER 11: New Moon

DECEMBER 13 & 14: Geminid meteor shower

DECEMBER 22: Solstice, winter begins at 00:48 AST

DECEMBER 24: Full Moon on Christmas Eve (see below)

For many people, Christmas Eve is a special time of the year. If the sky is clear on December 24, 2015, the full Moon will add to the ambiance. A full Moon occurs on Christmas Eve at 19-year intervals – only about once a generation, only a few times in a single human lifetime, a very few times given the chance of cloudy weather! Celestial arithmetic is responsible: 235 lunar phase periods equals almost exactly 19 years, a coincidence known as the Metonic Cycle, after Meton, a Greek astronomer ca. 430 BC, who described it. May the sky be clear this Christmas Eve!

JANUARY 2: Latest sunrise of the year (07:56) and Earth closest to Sun

JANUARY 3: Quadrantid Meteor Shower 4 a.m. tomorrow

JANUARY 9: New Moon

JANUARY 19: Moon occults Aldebaran (see below)

JANUARY 23: Full Moon

As a result of Earth's rotation, the Moon rises in the east and sets in the west. The Moon also moves slowly eastward in its "monthly"

orbit relative to the background stars, which is why it rises about an hour later each succeeding night. The Moon's orbital motion will be obvious on the evening of January 19 as the dark limb of the Moon creeps up on the bright star Aldebaran. Use binoculars and note the position of Aldebaran to the left (east) of the Moon as darkness falls that evening, and make sure your watch is accurate. Then look carefully at 10:40 p.m. For observers near Wolfville, four minutes later Aldebaran will suddenly vanish!

FEBRUARY 8: New Moon

FEBRUARY 25: Zodiacal light (see below)

FEBRUARY 22: Full Moon

Every evening from the 25th of February until March 10, after the end of evening twilight, there is in the western sky an apparition that few people have seen. The sky must be both clear and transparent (no haze or thin cloud, with stars visible right to the horizon). In addition, you must be far from the light pollution of towns and yard lights. Also, you must be dark-adapted (If you step outdoors for a minute or two after looking at TV, a smart-phone, or a computer screen, you will not see the zodiacal light. Full dark-adaptation takes half an hour.) The zodiacal light is a huge, glowing pyramid of white light, rising up from the western horizon high into the sky, slanting toward the left. It is sunlight scattered by the layer of comet dust that fills the inner Solar System. Look between 7:45 and 8:00 p.m.

MARCH 8: New Moon

MARCH 8: Jupiter at opposition (see below)

MARCH 10, 11, 12: Large tides

MARCH 13: Daylight Saving Time begins

MARCH 20: Equinox, spring begins at 01:30 ADT

MARCH 23: Full Moon

Jupiter, the largest of the planets, is at opposition (opposite the Sun in our sky) on March 8. Thus, during March, Jupiter is near-

est Earth (36 light-minutes away), brightest (magnitude -2.5), and largest appearing (44 arc-seconds in diameter). Also, it rises in the east near sunset and is visible all night. Relative to the background stars, Jupiter lies below the eastern portion of Leo and a few degrees north of the celestial equator. During March, Jupiter is in the south and highest above the horizon (for the best telescopic views) at 1 a.m. early in March, at 12 midnight by month's end. Good-quality binoculars will show the disk of Jupiter and one or more of its four large satellites, the "Galilean moons," three of which are larger than Earth's Moon.



RICHARD STERN

Black-throated Green Warbler

BLOMIDON NATURALISTS SOCIETY 2016 Membership Fees & Order Form

Members receive four issues of the BNS newsletter annually.
As a registered charity, BNS issues receipts for all donations.
Members may also join Nature Nova Scotia through BNS.
(Neither BNS nor NNS membership is tax deductible.)

NAME _____

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In signing this membership application, I/we hereby waive & release the Blomidon Naturalists Society, its executive committee and members, from all claims for injury and/or damage suffered at any function or field trip organized by the Blomidon Naturalists Society.

SIGNATURE _____

DATE _____

No.	Description	Price	Total
_____	Individual/ Family Membership	\$30.00	\$ _____
_____	Junior (under 16 years) Membership	\$1.00	\$ _____
_____	Nature Nova Scotia Membership	\$5.00	\$ _____
_____	2016 BNS Calendar	\$15.00	\$ _____
_____	Natural History of Kings County	\$14.00	\$ _____
_____	Within the View of Blomidon	\$20.00	\$ _____
_____	Checklist of Kings County Birds	\$5.00	\$ _____
_____	Blomidon Naturalist crest	\$5.00	\$ _____
_____	Blomidon Naturalist hat	\$15.00	\$ _____
_____	BNS Calendar Photos (Screensaver)	\$10.00	\$ _____
	Postage: (calendar \$2) (parcel \$6)		\$ _____
	Tax-deductible Donation		\$ _____
	(Registration number: 118811686RR0001)		

TOTAL \$ _____

Address cheques or money orders to Blomidon Naturalists Society for membership and other purchases to: Ed Sulis, 107 Canaan Avenue, Kentville, NS B4N 2A7. Due date is January 1 of current year.



SOURCES OF LOCAL NATURAL HISTORY

Compiled by the Blomidon Naturalists Society

Amphibians & Reptiles	Sherman Bleakney	H: 902-542-3604	
	Jim Wolford	H: 902-542-9204	
Astronomy	Roy Bishop	H: 902-542-3992	
	Sherman Williams	H: 902-542-5104	
	Larry Bogan	H: 902-678-0446	
Birds – General	Bernard Forsythe	H: 902-542-2427	
	Richard Stern	O: 902-678-4742	H: 902-678-1975
	Gordon & Judy Tufts	H: 902-542-7800	
	Jim Wolford	H: 902-542-9204	
	Jean Timpa	H: 902-542-5678	
Butterflies & Moths	Jean Timpa	H: 902-542-5678	
Fish & Wildlife	NS Department of Natural Resources	O: 902-679-6091	
Flora	Ruth Newell	O: 902-585-1355	H: 902-542-2095
Fungi	Nancy Nickerson	H: 902-542-9332	
Hawks & Owls	Bernard Forsythe	H: 902-542-2427	
Indian Prehistory & Archeology	James Legge	H: 902-542-3530	
Mosses & Ferns	Ruth Newell	O: 902-585-1355	H: 902-542-2095
Mammals	Tom Herman	O: 902-585-1358	H: 902-678-0383
Rocks & Fossils	Geology Dept., Acadia University	O: 902-585-2201	
Seashore & Marine Life	Sherman Bleakney	H: 902-542-3604	
	Jim Wolford	H: 902-542-9204	
	Michael Brylinsky	O: 902-585-1509	H: 902-582-7954